Gulf of Mexico Harmful Algal Bloom Bulletin

Region: Texas

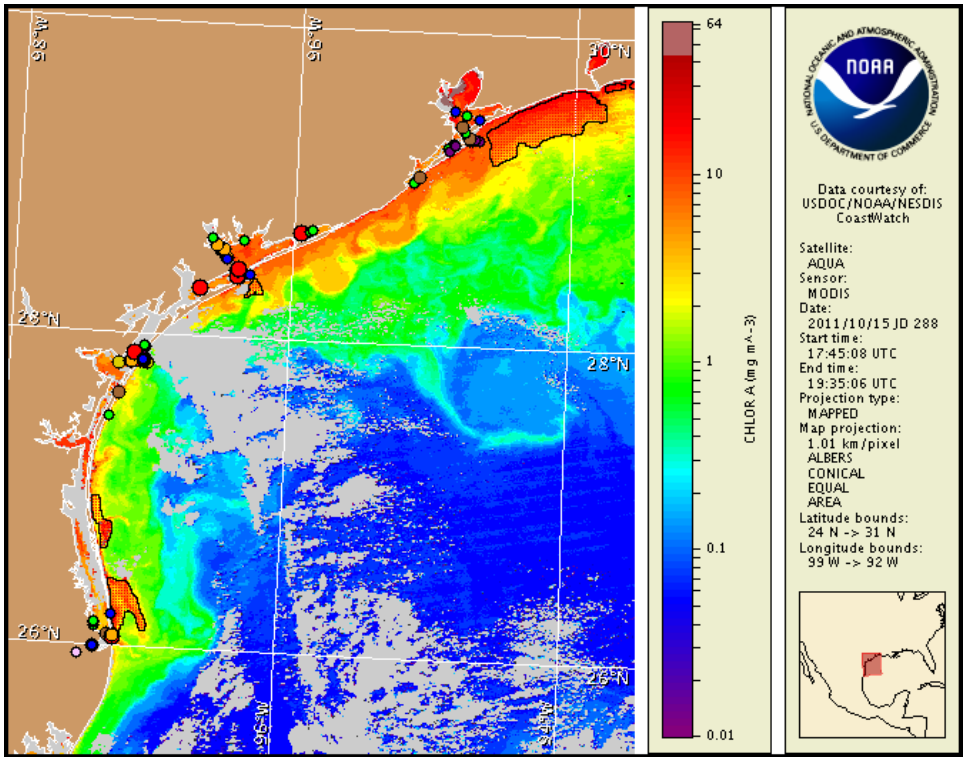
Monday, 17 October 2011

NOAA Ocean Service

NOAA Satellite and Information Service

NOAA National Weather Service

Last bulletin: Thursday, October 13, 2011



Satellite chlorophyll image with possible HAB areas shown by red polygon(s). Cell concentration sampling data from October 7 to 17 shown as red (high), orange (medium), yellow (low b), brown (low a), blue(very low b), purple (very low a), pink (present), and green (not present). For a list of cell count data providers and a key to the cell concentration categories, please see the HAB-OFS bulletin guide:

http://tidesandcurrents.noaa.gov/hab/habfs_bulletin_guide.pdf

To see previous bulletins and forecasts for other Harmful Algal Bloom Bulletin regions, visit the NOAA Harmful Algal Bloom Operational Forecast System bulletin archive: http://tidesandcurrents.noaa.gov/hab/bulletins.html

Conditions Report

A harmful algal bloom has been identified along the Texas coast in the Galveston/Freeport region, alongshore the Matagorda Peninsula and within Matagorda Bay, in the Aransas Pass region and within Corpus Christi Bay, alongshore Padre Island National Seashore and the South Padre Island region,within the Brownsville Ship Channel area, and within the lower Laguna Madre. Patchy high impacts are possible at the southern end of South Padre Island today through Wednesday. In the lower Laguna Madre region, patchy high impacts are possible Monday and Tuesday and patchy moderate impacts are possible Wednesday. In the Port Aransas and Matagorda Peninsula regions, patchy high impacts are possible Monday, and patchy low impacts are possible Tuesday and Wednesday. Within the Brownsville Ship Channel, patchy moderate impacts are possible Monday and Tuesday and patchy low impacts are possible on Wednesday. In the Galveston area, patchy moderate impacts are possible on Monday and patchy very low impacts are possible Tuesday and Wednesday. No impacts are expected elsewhere alongshore Texas today through Wednesday, October 19. Over the past few days, reports of dead fish have been received from the Espiritu Santo Bay and South Padre Island regions. Discolored water has been reported in the Lavaca Bay and Espiritu Santo Bay regions. Respiratory irritation has been reported from the Port Aransas area, Padre Island National Seashore, and South Padre Island.

Analysis

A harmful algal bloom has been identified along the Texas coast in the Galveston/Freeport region, alongshore the Matagorda Peninsula and within Matagorda Bay, in the Aransas Pass region and within Corpus Christi Bay, alongshore the Padre Island National Seashore and the South Padre Island region, within the Brownsville Ship Channel area, and within the lower Laguna Madre. Recent sampling in the Galveston Bay region indicates that *Karenia brevis* concentrations have increased. Two 'low a' and two 'very low a' samples (10/13) were identified from the Bolivar Roads Pass area (10/3-11; TPWD). Of seven samples collected within Galveston Bay, four identified *K. brevis* concentrations that ranged between 'very low a' and 'low a' (10/13; TPWD). Two 'very low a' *K. brevis* samples were identified from West Bay and a 'low a' sample was collected from the San Luis Pass Bridge (10/13; TPWD). Six samples indicate that *K. brevis* remains at: 'medium' concentrations in the southern region of Lavaca Bay, 'very low b' at the mouth of Powderhorn Lake, and 'not present' in the northern region of Lavaca Bay and at the mouth of Carancahua Bay (10/13; TPWD). In the Aransas Pass region, five samples indicate that *K. brevis* remains at 'medium' concentrations at the UTMSI marina and the pier, while three samples collected at depth ranged between 'very low b' and 'medium' (10/13-17; TPWD). 'Medium' to 'high' concentrations of *K. brevis* were identified from two samples collected from Aransas Bay (10/12; TPWD). In the South Padre Island region, although *K. brevis* concentrations had been dissipating over the past two weeks (10/3-15), three samples collected today (10/17) from the UTPA Coastal Studies Lab, Brazos Santiago Pass, and Children's Beach in Isla Blanca Park indicate that *K. brevis* concentrations have increased to 'medium' to 'high' (TPWD). In the Brownsville Ship Channel, a sample collected from the San Martin Boat Ramp indicates *K. brevis* concentrations have decreased to 'very low b' from 'low a' (10/15; TPWD). In the lower Laguna Madre, one sample indicates *K. brevis* remains at 'low a' concentrations (10/15; TPWD). No recent samples have been reported from the Padre Island National Seashore where 'medium' *K. brevis* concentrations were previously identified as recently as 10/6

(TPWD). Continued sampling is recommended.

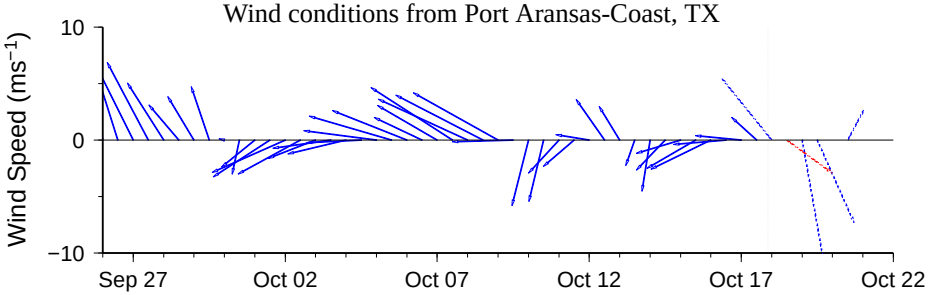
Over the past few days, reports of dead fish have been reported from the Espiritu Santo Bay region along the ICWW near Charlie's Bait Camp and in the Padre Island region. The fish kill in the Bastrop Bayou may have been caused by *K. brevis*, but water samples were inconclusive (10/14; TPWD). Discolored water has been reported from the Lavaca Bay region (10/13; TPWD). Respiratory irritation has been reported from the Port Aransas area, Padre Island National Seashore, and all along South Padre Island, especially at the northern end (10/17; TPWD). Forecasted winds may decrease respiratory impacts along the coast, Tuesday and Wednesday.

Recent MODIS imagery (10/15, shown page 1) is partially obscured by clouds along the Texas coast in the Port Aransas area. Near where the harmful algal bloom was identified in southern Texas, a feature of elevated to very high chlorophyll (2 to >20 μg/L) remains visible along- and offshore the coast of Padre Island, stretching from 27°10'33''N 97°20'58''W to 26°0'15''N 97°6'2''W. At its widest point in the South Padre Island region, it extends approximately 25 km offshore. Continued sampling is recommended. Patches of elevated chlorophyll (2- 8 μg/L) are also visible along- and offshore the coast of the Mustang Island region. A band of elevated to very high chlorophyll (2 to >20 μg/L) remains visible along- and offshore the coast from the Matagorda to Sabine Pass region, however, this elevated chlorophyll may be due in part to the continued resuspension of benthic chlorophyll and sediments. Within this band, patches of elevated chlorophyll that are more likely to contain *K. brevis* are visible along- and offshore from the Matagorda Peninsula to approximately 16 km south of Pass Cavallo (10/15, inset image, shown on page 4). A suspicious band of elevated to very high chlorophyll is also visible stretching from the Galveston region to east of Sabine Pass (10/15, inset image, shown on page 4).

Forecast models indicate a maximum bloom transport from coastal sample locations of 25 km south in the Galveston/Freeport area, 60 km south from the Matagorda Peninsula region, 40-70 km south of the Aransas Pass region, and 50 km south of the Brazos Santiago Pass region from October 15 to 20. Forecast models indicate a maximum transport of 40 km northeast of the feature identified from imagery in the Sabine Pass area and 40 km south of the feature identified from imagery in the Big Shell Beach area from October 15 to 20.

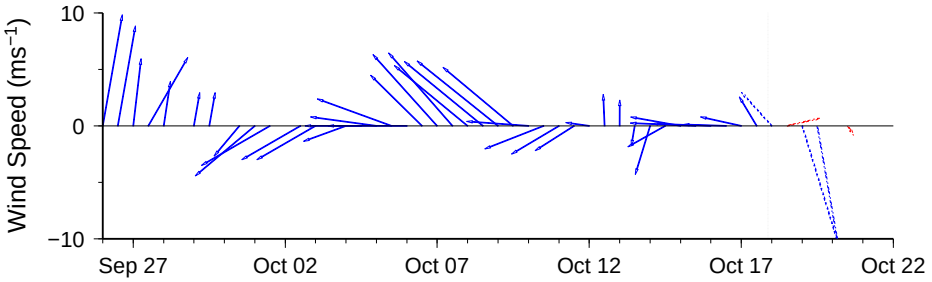
Kavanaugh, Derner

Wind conditions from Port Aransas-Coast, TX

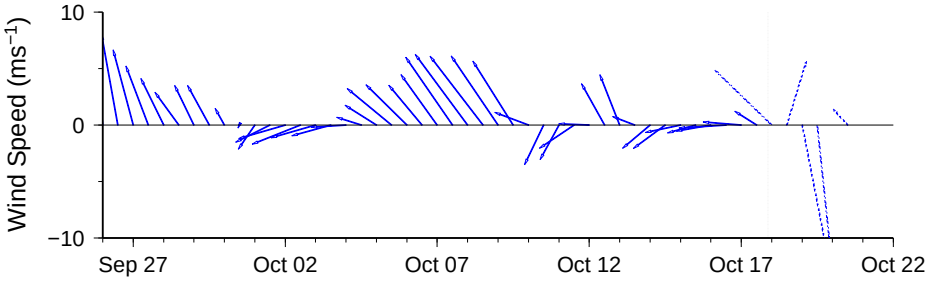


Wind speed and direction are averaged over 12 hours from buoy measurements. Length of line indicates speed; angle indicates direction. Red indicates that the wind direction favors upwelling near the coast. Values to the left of the dotted vertical line are measured values; values to the right are forecasts. Wind observation and forecast data provided by NOAA's National Weather Service (NWS).

Wind conditions from 60nm S of Freeport,TX



Wind conditions from South Padre, TX - TABS J

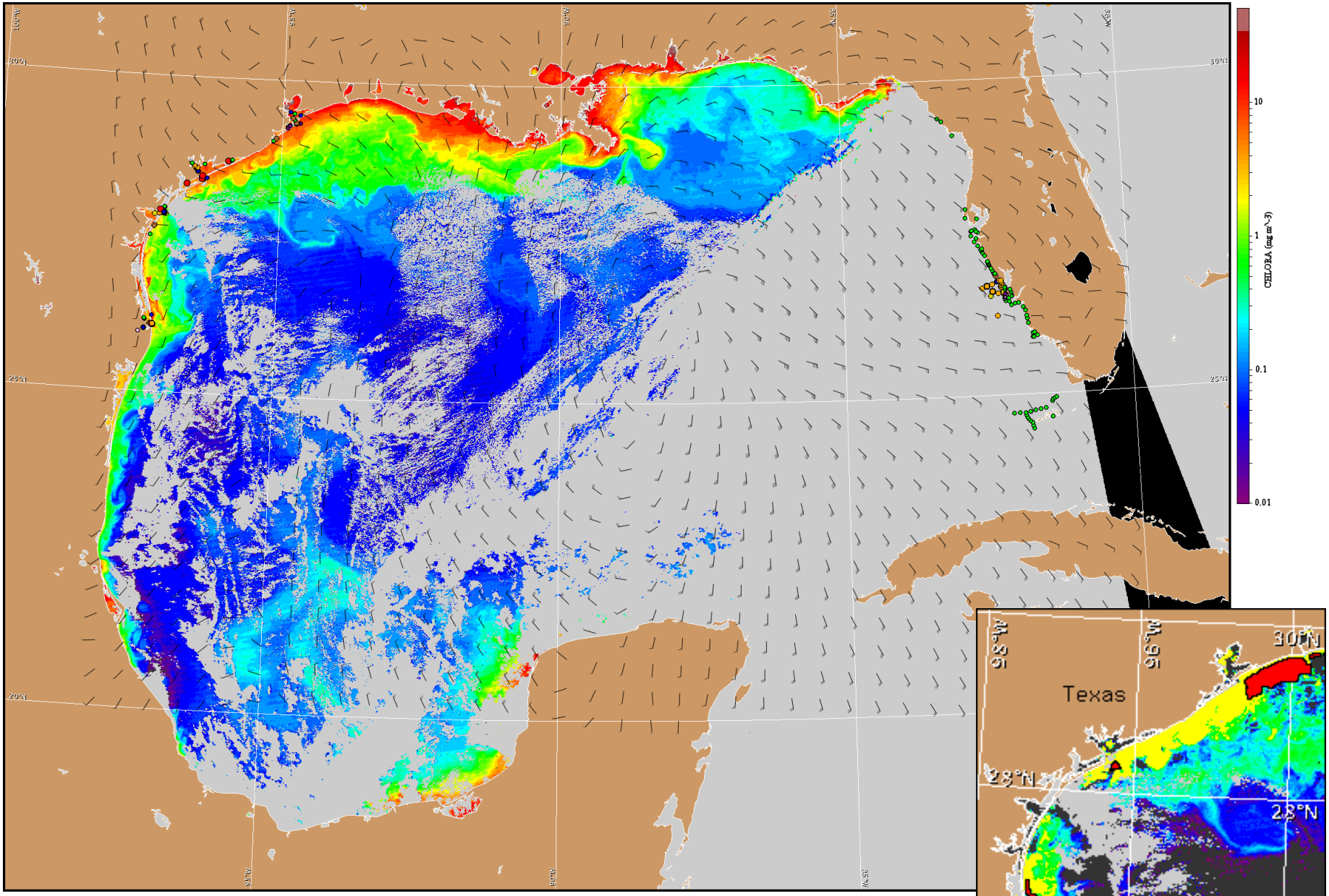


Wind Analysis

Galveston and Freeport area: East to southeast winds (5-10 kn, 3-5 m/s) today. South to southwest winds (10-15 kn, 5-8 m/s) tonight. Northwest winds (15-25 kn, 8-13 m/s) Tuesday becoming north winds (15-30 kn, 8-15 m/s) Tuesday afternoon through evening. Northwest winds (15-20 kn) Wednesday becoming north winds (5-10 kn, 3-5 m/s) Wednesday night.

Port Aransas: Southwinds (10-15 kn) tonight. Northwest to north winds (20-30 kn, 10-15 m/s) Tuesday. North to northeast winds (10-20 kn, 5-10 m/s) Wednesday.

Padre Island: Light winds becoming southeast winds (10 kn, 5 m/s) this afternoon. South winds (15 kn, 8 m/s) this evening. Northwest winds (15-25 kn, 8-13 m/s) Tuesday becoming north winds (15-30 kn) Tuesday afternoon through evening. North winds (10-25 kn, 5-12m/s) Wednesday.



Satellite chlorophyll image and forecast winds for October 18, 2011 12Z with cell concentration sampling data from October 7 to 17 shown as red (high), orange (medium), yellow (low b), brown (low a), blue(very low b), purple (very low a), pink (present), and green (not present). For a list of cell count data providers and a key to the cell concentration categories, please see the HAB-OFS bulletin guide:

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Verified and suspected HAB areas shown in red. Other areas of high chlorophyll concentration shown in yellow (see p. 1 analysis for interpretation).